CONTENTS

Vol. 115, No. 1, January, 1975

Generalized paroxysmal discharges induced by visual stimuli and eye movements. *T. Takahashi and Y. Tsukahara* 1

Red cell count in hereditary spherocytosis with nephrotic hypercholesterolemia. *A. Takase and I. Matsuda* 11

High epinephrine content in the adrenal tumors from Sipple's syndrome. *T. Sato, K. Kobayashi, Y. Miura, H. Sakuma, K. Yoshinaga and K. Nakamura* 15

Histometrical estimation of scar tissue in hypertrophied human heart muscle. *R. Sasaki, H. Yamagiwa, S. Ichikawa, A. Ito and S. Yamagata* 21

A further study on fast and slow principal cells of rat lateral geniculate body: an analysis of flash-evoked responses. *Y. Fukuda, M. Sugitani and Y.-G. Kim* 33

Mycoplasma in synovial fluid from the patients with rheumatoid arthritis. *M. Arai* 47

Globoid cell leukodystrophy: the first case with antemortem diagnosis in Japan. *Y. Wada, Ts. Arakawa, N. Chida, A. Onuma, H. Nakagawa, K. Iinuma, Y. Yoshimura, S. Nakajima and Y. Suzuki* 53

Positive chronotropic and inotropic effects of glucagon on the canine isolated atrium. *S. Chiba* 61

Sequence of heme decomposition by the coupled oxidation of myoglobin with ascorbic acid. *T. Yoshida and G. Kikuchi* 67

Electroencephalographic findings in a case of globoid cell leukodystrophy. *K. Iinuma and A. Onuma* 75

Effects of dibutyryl cyclic AMP on sinus rate and atrial contractile force in the isolated atrium of the dog. *S. Chiba* 81

The sarcoma arising in giloblastoma: clinico-pathological report of two cases. *T. Tsubokawa and D.H. Richardson* 85

Short Reports

Impetus to transferring non-motile sperm in the seminiferous tubules into the epididymis. *M. Shirai, S. Mitsukawa and S. Matsuda* 95

An unexpected incidence of convulsive attack in male mice after long-term isolated condition. *T. Takemoto, T. Suzuki and T. Miyama* 97

Vol. 115, No. 2, February, 1975

Reconstruction of intrahepatic bile ducts in congenital biliary atresia. *T. Chiba, M. Kasai and N. Sasano* 99

Effects of heterologous anti-erythrocyte antibodies on the generation cycle of erythroblasts in rats. *T. Kuroyanagi and M. Saito* 111

Histochemical and electron microscopic studies of the human cutaneous lymphatic capillary. *M. Ohkuma* 121

Über Glykosaminoglykane (Mukopolysaccharide) in einem Fall von Lungenfibrose. *A. Yokosawa, H. Arai, H. Sato, M. Endo, M. Motomiya und K. Konno* 129

Effect of unilateral lesion of amygdala on unmanifested response to matatabi (*Actinidia polygama*) in cats. *K. Katahira and E. Iwai* 137

Responses to exogenous dibutyryl adenosine 3′, 5′-monophosphate of cardiac output and blood flow in the renal, superior mesenteric and carotid arteries in anesthetized dogs. *H. Nozaki and A. Okuaki* 145

Exophthalmus-myxoedema circumscriptum praetibiale-osteoarthropathia hypertrophicans (E.M.O.) syndrome in Graves' disease: a review of eight cases reported in Japan. *S. Saito, T. Sakurada, M. Yamamoto, T. Yamaguchi, K. Yoshida, Y. Sasai and K. Yoshinaga* 155

Statistical analysis on toxicity of a nitrofuran derivative, 2-(2-furyl)-3-(5-nitro-2-furyl) acrylamide. *K. Takahashi* 167

Role of adenosine or AMP as a probable mediator of blood flow regulation in canine hindlimb muscles. *S. Tominaga, K. Watanabe and T. Nakamura* 185

Short Report

Surveillance system of chromosome abnormalities in early embryonic stage of induced abortions. *M. Yamamoto, R. Fujimori, K. Adachi, T. Ito, K. Kamimura and G. Watanabe* 197

Vol. 115, No. 3, March, 1975

Reovirus-like particles in jejunal mucosa of a Japanese infant with acute infectious non-bacterial gastroenteritis. *H. Suzuki and T. Konno* 199

Sex-difference in the response to different kinds of dietary carbohydrates in rats. *T. Takemoto* 213

Change of pyrophosphatase activity in the chicken serum during the course of development. *N. Ishihara* 223

Lactate formation by the avian lung tissue. *N. Ishihara and M. Noguchi* 227

Amino acid metabolism in Wegener's granulomatosis. *A. Kataura and Y. Doi* 233

RNA content in the heart muscle cells following adrenalectomy and additional overload in the rat. *T. Suzuki* 239

Comparative studies of the growth promoting effects of ascitic or pleural effusion from patients with malignant tumors, human serum and fetal calf serum on human cells cultured in vitro. *N. Yamamoto* 247

A comparison of free amino acid components in the human adenoid and palatine tonsil. *Y. Doi and A. Kataura* 259

Pheochromocytomas occurring in 3 members in a family. *T. Sato, Y. Sato, H. Sakuma K. Kobayashi, Y. Miura, K. Yoshinaga and H. Watanabe* 263

Statistical analysis of diverticulosis of the colon. *T. Narasaka, H. Watanabe, S. Yamagata, A. Munakata, T. Tajima and F. Matsunaga* 271

Light-induced permanent changes in electric resistance and standing potential observed in neonatal chick eyes. *T. Sato* 277

Fibercolonoscopy for the diagnosis of granulomatous colitis. *H. Watanabe, T. Narasaka, H. Imai, J.M. Uezu, M. Numazawa, K. Shoji, M. Ishikawa and S. Yamagata* 285

Short Report

The effect of visual sexual stimulation on urinary excretion of adrenaline and noradrenaline in impotent patients. *M. Shirai and T. Sato* 297

Vol. 115, No. 4, April, 1975

Chemical compositions of glomerular and tubular basement membranes of human kidney. *T. Sato, H. Munakata, K. Yoshinaga and Z. Yosizawa* 299

Exocrine pancreatic function after upper abdominal surgery. *Y. Suda, M. Shiraso and T. Sato* 307

Responsiveness of urinary cyclic AMP and phosphate to parathyroid extract in patients with parathyroid disorders. *M. Aida, Y. Furukawa, K. Miura, A. Mihara, K. Kato, T. Tano, M. Ojima, K. Haniw, O. Murakami, S.-C. Lee and K. Yoshinaga* 319

Differentiation of biliary atresia from neonatal hepatitis by routine clinical examinations. *T. Chiba and M. Kasai* 327

Plasma glucagon-like immunoreactivity (GLI) in dogs. *A. Ohneda, K. Horigome, A. Yanbe, S. Ishii, H. Itabashi, M. Chiba, Y. Maruhama and S. Yamagata* 337

An attempt to determine surgical indication for biliary atresia by laboratory examination. *T. Chiba and M. Kasai* 345

Pharmacological analysis of dopamine action on the isolated dog atrium. *S. Chiba* 355

Increase of dermatan sulfate in a case of pulmonary fibrosis. *M. Motomiya, H. Arai, H. Sato, A. Yokosawa, H. Nagai and K. Konno* 361

Problems of retained calculi in the bile duct. *T. Sato, T. Matsushiro, N. Suzuki, N. Nakamura and S. Inoue* 367

Eccrine sweat gland sensitivity to catecholamines in patients with pheochromocytoma and primary aldosteronism. *H. Watanabe and M. Morita* 377

Digital plethysmographic responses to auditory stimuli in patients with vibration disease. *T. Matoba, H. Kusumoto, H. Omura, T. Kotorii, H. Kuwahara and M. Takamatsu* 385

Short Reports

The relation between experimentally induced pyelonephritis and hypertension. *S. Tsuchida, O. Yamaguchi, S. Arai and S. Fukuchi* 393

Bronchial hypersensitivity to methacholine in monkeys with beta-adrenergic blockade. *S. Mue, T. Ise, S. Suzuki, M. Sugiyama, T. Sasaki and T. Takishima* 395

AUTHOR INDEX

ADACHI, Kimiko 197
AIDA, Mitsuyasu 319
ARAI, Hideo 129, 361
ARAI, Michio 47
ARAI, Shigeru 393
ARAKAWA, Tsuneo 53

CHIBA, Masamichi 337
CHIBA, Shigetoshi 61, 81, 355
CHIBA, Tsuneo 99, 327, 345
CHIDA, Nobukazu 53

DOI, Yasuyuki 233, 259

ENDO, Masahiko 129

FUJIMORI, Ryoju 197
FUKUCHI, Soitsu 393
FUKUDA, Yutaka 33

HANIW, Kunihiko 319
HORIGOME, Ken 337
HURUKAWA, Yotaro 319

ICHIKAWA, Shizuka 21
IINUMA, Kazuie 53, 75
IMAI, Hiroshi 285
INOUE, Susumu 367
ISE, Tadao 395
ISHIHARA, Nobuo 223, 227
ISHII, Shoji 337
ISHIKAWA, Makoto 285
ITABASHI, Hiroshi 337
ITO, Akihiko 21
ITO, Takashi 197
IWAI, Eiichi 137

KAMIMURA, Katsura 197
KASAI, Morio 99, 327, 345
KATAHIRA, Kiyoaki 137
KATAURA, Akikatsu 233, 259
KATO, Katsuhiko 319
KIKUCHI, Goro 67
KIM, Yong-gi 33
KOBAYASHI, Kiyoshi 15, 263
KONNO, Kiyoshi 129, 361
KONNO, Tasuke 199
KOTORII, Tatayu 385
KUROYANAGI, Takeo 111
KUSUMOTO, Hisao 385
KUWAHARA, Hiroshi 385

LEE, Shyi-Chang 319

MARUHAMA, Yoshisuke 337
MATOBA, Tsunetaka 385
MATSUDA, Ichiro 11
MATSUDA, Shotaro 95
MATSUNAGA, Fujio 271
MATSUSHIRO, Takashi 367
MIHARA, Akio 319
MITSUKAWA, Shiro 95
MIURA, Kiyoshi 319
MIURA, Yukio 15, 263
MIYAMA, Tomoyo 97
MORITA, Masayoshi 377
MOTOMIYA, Masakichi 129, 361
MUE, Suetsugu 395
MUNAKATA, Akihiro 271
MUNAKATA, Hiroshi 299
MURAKAMI, Osamu 319

NAGAI, Hiromi 361
NAKAGAWA, Hiroshi 53
NAKAJIMA, Susumu 53
NAKAMURA, Katsuhiro 15
NAKAMURA, Naoshi 367
NAKAMURA, Takashi 185
NARASAKA, Toshiki 271, 285
NOGUCHI, Masato 227
NOZAKI, Hirofumi 145
NUMAZAWA, Makoto 285

OHKUMA, Moriya 121
OHNEDA, Akira 337
OJIMA, Motoko 319
OKUAKI, Akira 145
OMURA, Hozuma 385
ONUMA, Akira 53, 75

RICHARDSON, Dale H. 85

SAITO, Masanobu 111
SAITO, Shintaro 155
SAKUMA, Hisaichi 15, 263
SAKURADA, Toshiro 155
SASAI, Yoichiro 155
SASAKI, Rikuro 21
SASAKI, Takao 395
SASANO, Nobuaki 99
SATO, Hirosi 129, 361
SATO, Tadasi 277
SATO, Tatsuo 15, 263, 297

Sato, Tokutaro 299
Sato, Toshio 307, 367
Sato, Yukiko 263
Shirai, Masafumi 95, 297
Shiraso, Mitsuyasu 307
Shoji, Kenichi 285
Suda, Yasuo 307
Sugitani, Michio 33
Sugiyama, Masaharu 395
Suzuki, Hiroshi 199
Suzuki, Noriyoshi 367
Suzuki, Shunsuke 395
Suzuki, Tsuguyoshi 97
Suzuki, Tsuneo 239
Suzuki, Yoshiyuki 53

Tajima, Tsuyoshi 271
Takahashi, Kosei 167
Takahashi, Takeo 1
Takamatsu, Makoto 385
Takase, Aiko 11
Takemoto, Tai-ichiro 97, 213
Takishima, Tamotsu 395
Tano, Takehiro 319
Tominaga, Shiro 185
Tsubokawa, Takashi 85
Tsuchida, Seigi 393
Tsukahara, Yasuo 1

Uezu, Julio Mabune 285

Wada, Yoshiro 53
Watanabe, Gen-ichi 197
Watanabe, Hikaru 271, 285
Watanabe, Hiroki 263, 377
Watanabe, Katsuhiro 185

Yamagata, Shoichi 21, 271 285, 337
Yamagiwa, Hirotsugu 21
Yamaguchi, Osamu 393
Yamaguchi, Tohru 155
Yamamoto, Makiko 155
Yamamoto, Masaharu 197
Yamamoto, Naoki 247
Yanbe, Akira 337
Yokosawa, Atsunobu 129, 361
Yoshida, Katsumi 155
Yoshida, Tadashi 67
Yoshimura, Yozo 53
Yoshinaga, Kaoru 15, 155, 263 299, 319
Yosizawa, Zensaku 299

THE TOHOKU JOURNAL OF EXPERIMENTAL MEDICINE

Volume 116

May–August, 1975

EDITORIAL BOARD

S. AKAISHI Ts. ARAKAWA T. HOSHI G. KIKUCHI
M. SEIJI N. SUWA T.Y. YAMAMOTO

IN COLLABORATION WITH

M. ENDO
S. FUJISAKU
T. FUKUOKA
F. HOSHINO
M. IKEDA
N. ISHIDA
T. ISHII
K. ITAHARA
K. IWATSUKI
M. KASAI
K. KAWAMOTO
K. MIZUNO
T. MORI
H. NAKAHAMA
T. OKUMA
M. SAKKA
N. SASANO
T. SATO
T. SUGIYAMA
J. SUZUKI
M. SUZUKI
T. SUZUKI
T. SUZUKI
N. TAIRA
T. TAKISHIMA
K. TASAKI
E. WAKAMATSU
S. YAMAGATA
K. YOSHINAGA
Z. YOSIZAWA

PUBLISHED BY

THE TOHOKU UNIVERSITY

SENDAI, JAPAN

CONTENTS

Vol. 116, No. 1, May, 1975

Histochemical studies of pancreatic calculi. *W. Takahashi, T. Matsushiro, N. Suzuki and T. Sato* 1

Diagnostic discrimination between organic and functional impotence by radioisotope penogram with $^{99m}TcO_4^-$. *M. Shirai and M. Nakamura* 9

Effects of diagnostic ultrasound irradiated during fetal stage on development of orienting behavior and reflex ontogeny in rats. *N. Murai, K. Hoshi and T. Nakamura* 17

Inhibition of serum alkaline phosphatase activity by phenylalanine and cholic acid. *N. Muto, K. Wakui, I. Lim, Y. Tokawa, H. Suzuki, T. Sugawara, M. Otsuki and S. Yamagata* 25

Specific role of magnesium ion in protecting the anticomplementary effect of DNA in immune hemolysis. *E. Okuhara, J. Igarashi, A. Wakizaka and T. Matsumoto* 33

Recovery of catalase activity after inhibition with aminotriazole in acatalasemia mice. *M. Ogata, J. Mizugaki and S. Takahara* 39

Thickened cellular envelope of the horny cells in cow snout epidermis. *T. Tezuka* 45

Electroencephalographic study of an infant with phosphoribosylpyrophosphate synthetase deficiency. *K. Iinuma, Y. Wada, A. Onuma and M. Tanabu* 53

Mother cell of megakaryocyte. *T. Murata* 57

Mechanism of platelet liberation. *T. Murata* 67

Inhibition of PHA-induced lymphocyte stimulation by factors in maternal serum during late pregnancy. *T. Saito, M. Takada and N. Ishida* 77

A new method for the screening of unidentified complaints syndrome in pre-, mid- and postmenopausal women. *T. Abe, N. Furuhashi, I. Ohashi, M. Suzuki and T. Moritsuka* 81

Determination of hydroxyproline content in human heart muscle. *R. Sasaki, S. Ichikawa, H. Yamagiwa, A. Ito and S. Yamagata* 87

Short Report

Viral hepatitis B and aplastic anemia. *S. Nakamura, T. Sato, T. Maeda and Y. Sato* 101

Vol. 116, No. 2, June, 1975

Glucagon-induced insulin secretion in normal and diabetic subjects. *A. Ohneda, K. Matsuda, M. Chiba, Y. Iimura and S. Yamagata* 103

Maturation and interrelationship of mouse mononuclear phagocytes in bone

marrow, peripheral blood and peritoneal cavity in terms of erythrophagocytic activity. *H. Ohta and K. Shimizu* 111

Glutathione reductase activity in serum and liver tissue of human and rat with hepatic damage. *H. Kumata, K. Wakui, H. Suzuki, T. Sugawara, I. Lim, M. Otsuki, T. Ozeki, K. Miura and S. Yamagata* 127

Studies on stereospecific reduction of acetoacetyl CoA and crotonyl CoA in lactating rabbit mammary glands. *T. Takatori and Y. Imai* 133

Reticuloendothelial system function test using ^{131}I-labeled aggregated albumin. *E. Ouchi, K. Miura and S. Yamagata* 141

Plasma renin activity in patients with renovascular hypertension. *Y. Otsuka, K. Abe, T. Saito, N. Irokawa, H. Aoyagi, H. Memezawa, M. Seino, M. Yasujima and K. Yoshinaga* 149

Biochemical study of fibrosis in the rat liver in biliary obstruction. *K. Koyama, I. Muto, H. Yamauchi, Y. Takagi, T. Anezaki and T. Sato* 161

Diagnostic value of secretin provocation test. *A. Ishimori, K. Tsuda, Su. Yamagata, Y. Miura, T. Kawamura, H. Sakurada and S. Yamagata* 173

Conformational studies of hepatitis B surface antigen (HBsAg) by amino acid analysis. *N. Sukeno, H. Shiraishi and N. Ishida* 179

Successful subclavian-left coronary artery anastomosis for anomalous origin of left coronary artery in infancy. *T. Horiuchi, Y. Suzuki, E. Ishizawa, T. Sato, A. Yokoyama, M. Tadokoro and O. Kahata* 183

Uptake ratio of [19-^{131}I]cholesterol by adrenal glands as observed by a scintigraphic method. *M. Nakamura, Y. Sawai, S. Fukuchi, K. Nakajima, M. Abe and F. Hoshino* 191

Short Reports

FSH, LH and testosterone levels in human seminal plasma. *M. Shirai, S. Matsuda, S. Mitsukawa, M. Nakamura and K. Yonezawa* 201

Separation and determination of carnitine and its esters in human serum. *M. Maebashi, N. Kawamura, M. Sato, K. Yoshinaga and M. Suzuki* 203

Vol. 116, No. 3, July, 1975

Diagnostic value of intravenous glucagon test in insulinoma. *A. Ohneda, Y. Maruhama, H. Itabashi, K. Horigome, A. Yanbe, S. Ishii, M. Chiba, Y. Kai, R. Abe and S. Yamagata* 205

Immune responses in *Mycoplasma pneumoniae* infections. *M. Umetsu, S. Ogawa, S. Chiba and T. Nakao* 213

Application of a radioimmunoassay for angiotensin I to the measurement of plasma renin in rabbits, and comparison with a biological assay of plasma renin activity. *H. Kurihara, A. Seki, T. Tanaka, J. Fujii and M. Ikeda* 219

The effect of pentazocine on PHA-stimulated human lymphocyte transformation. *K. Saito, K. Nishioka, K. Iwatsuki, K. Kumagai and M. Sasaki* 229

On metal elements in pure pigment gallstones. *N. Suzuki, Y. Nakamura, N. Kobayashi and T. Sato* 233

Separation of gastric mucosal cells of rat with proteolytic enzymes, pronase and trypsin, with special reference to the collection, morphology and viability of the generative cells. *Y. Kurokawa, S. Saito, R. Kanamaru, T. Sato and H. Sato* 241

Aging and scar tissue in human heart muscle. *R. Sasaki, H. Yamagiwa, S. Ichikawa, A. Ito and S. Yamagata* 253

Infrared absorption spectroscopy of pure pigment gallstones. *N. Suzuki, Y. Nakamura and T. Sato* 259

Renal impairment in patients with paroxysmal nocturnal hemoglobinuria. *T. Saito, T. Furuyama, S. Onodera, H. Saito, R. Shioji, Y. Hurukawa, Y. Sasaki, I. Sato and K. Yoshinaga* 267

Effects of 1-sarcosine-8-isoleucine-angiotensin II on blood pressure and plasma renin activity in various types of hypertension. *M. Yasujima, K. Abe, H. Aoyagi, N. Irokawa, H. Memezawa, Y. Otsuka, T. Saito, Y. Miura and K. Yoshinaga* 277

Histochemical demonstration of hyaluronic acid in human dermal mast cells. *Y. Sasai and M. Ishibashi* 285

Short Reports

Direct effects of cyclic AMP and dibutyryl cyclic AMP on renal blood flow. *H. Kokubun* 295

One step separation of the sialoprotein possessing ABH and MN blood group activities from human red cell membrane. *K. Sagisaka and C. Hamada* 297

Vol. 116, No. 4, August, 1975

Circulating plasma volume and renal function. *Y. Sasaki, T. Furuyama, R. Shioji and H. Ueda* 299

Treatment of multiple myeloma and macroglobulinemia Waldenström: a long-term follow-up study. *S. Onodera, M. Ohtaki, K. Oikawa, M. Mikami, I. Sato, K. Niikawa and T. Suzuki* 317

Changes in plasma levels of LH, FSH and testosterone following the administration of synthetic luteinizing hormone-releasing hormone to cryptorchid patients. *S. Matsuda, M. Shirai, S. Mitsukawa, M. Nakamura and K. Yonezawa* 327

Lympho-reticuloendothelial activity of early gastric carcinoma. *E. Ouchi, N. Nomura, J. Sato, K. Seiji, S. Watabe, K. Miura and S. Yamagata* 333

Combined cancer chemotherapy with cyclophosphamide and an inducer of microsomal drug-metabolizing enzymes (cytochrome P-450) in tumor-bearing rats. *S. Ohira, S. Maezawa, Y. Irinoda, K. Watanabe, K. Kitada and T. Saito* 341

Renal effects of prostaglandin E_1 in hypertensive patients. *K. Abe, Y. Otsuka, T. Saito, S. Miyazaki, M. Yasujima, N. Irokawa, M. Seino, S. Ciba and K. Yoshinaga* 351

Urinary kallikrein excretion and sodium metabolism in hypertensive patients. *M. Seino, K. Abe, Y. Otsuka, T. Saito, N. Irokawa, M. Yasujima, S. Ciba and K. Yoshinaga* 359

A new operative fiberpyeloscope. *S. Tsuchida* 369

Further studies on cross-immunity among syngeneic tumors of mice. *I. Usubuchi, S. Nishimura, H. Kudo, I. Ito and Y. Sobajima* 373

Mercury in red blood cells in relation to organic mercury in hair. *T. Suzuki and T. Miyama* 379

Metabolic heterogeneity of lecithins in intestine. *T. Akino and K. Ohno* 385

Short Report

Diminished immune response in pregnant mice. *K. Sasaki and N. Ishida* 391

AUTHOR INDEX

Abe, Keishi 149, 277, 351, 359
Abe, Mitsunobu 191
Abe, Ryuzo 205
Abe, Tetsuro 81
Akino, Toyoaki 385
Anezaki, Takumi 161
Aoyagi, Haruki 149, 277

Chiba, Masamichi 103, 205
Chiba, Satoru 351, 359
Chiba, Shunzo 213

Fujii, Jun 219
Fukuchi, Soitsu 191
Furuhashi, Nobuaki 81
Furuyama, Takashi 267, 299

Hamada, Chiaki 297
Horigome, Ken 205
Horiuchi, Togo 183
Hoshi, Kazuhiko 17
Hoshino, Fumihiko 191
Hurukawa, Yotaro 267

Ichikawa, Shizuka 87, 253
Igarashi, Junko 33
Iimura, Yasuo 103
Iinuma, Kazuie 53
Ikeda, Masao 219
Imai, Yoh 133
Irinoda, Yukihiro 341
Irokawa, Nobuo 149, 277, 351, 359
Ishibashi, Masao 285
Ishida, Nakao 77, 179, 391
Ishii, Shoji 205
Ishimori, Akira 173
Ishizawa, Eiji 183
Itabashi, Hiroshi 205
Ito, Akihiko 87, 253
Ito, Izumi 373
Iwatsuki, Kenichi 229

Kahata, Osamu 183
Kai, Yukihiro 205
Kanamaru, Ryunosuke 241
Kawamura, Norimitsu 203
Kawamura, Takeshi 173
Kitada, Kazuhiro 341
Kobayashi, Nobuyuki 233
Kokubun, Hisako 295
Koyama, Kenji 161
Kudo, Hajime 373
Kumagai, Katsuo 229
Kumata, Hirokatsu 127
Kurihara, Hiroshi 219
Kurokawa, Yuji 241

Lim, Insu 25, 127

Maebashi, Masaru 203
Maeda, Toshiyuki 101
Maezawa, Sakae 341
Maruhama, Yoshisuke 205
Matsuda, Kiyoshi 103
Matsuda, Shotaro 201, 327
Matsumoto, Tsutomu 33
Matsushiro, Takashi 1
Memezawa, Hidetoshi 149, 277
Mikami, Masatsugu 317
Mitsukawa, Shiro 201, 327
Miura, Kiyomi 127, 141, 333
Miura, Yoshikuni 173
Miura, Yukio 277
Miyama, Tomoyo 379
Miyazaki, Seiji 351
Mizugaki, Junko 39
Moritsuka, Takejiro 81
Murai, Norio 17
Murata, Terutoshi 57, 67
Muto, Isao 161
Muto, Norimoto 25

Nakajima, Katsuo 191
Nakamura, Mamoru 9, 191, 201, 327
Nakamura, Shozo 101
Nakamura, Toru 17
Nakamura, Yasushi 233, 259
Nakao, Tooru 213
Niikawa, Katsuhisa 317
Nishimura, Shigeki 373
Nishioka, Katsuro 229
Nomura, Nobuo 333

Ogata, Masana 39
Ogawa, Setsuko 213
Ohashi, Ichio 81
Ohira, Sadao 341
Ohneda, Akira 103, 205
Ohno, Kimiyoshi 385
Ohta, Hiroshi 111
Ohtaki, Masamichi 317
Oikawa, Kosuke 317
Okuhara, Eiji 33
Onodera, Seiju 267, 317

Onuma, Akira 53
Otsuka, Yoichi 149, 277, 351, 359
Otsuki, Masao 25, 127
Ouchi, Eietsu 141, 333
Ozeki, Tsuneo 127

Sagisaka, Kaoru 297
Saito, Hiroshi 267
Saito, Kotaro 229
Saito, Sachiko 241
Saito, Takao 267
Saito, Takuya 77
Saito, Tatuo 341
Saito, Tetsuo 149, 277, 351, 359
Sakurada, Hiroyuki 173
Sasai, Yoichiro 285
Sasaki, Kenji 391
Sasaki, Mutsuo 229
Sasaki, Rikuro 87, 253
Sasaki, Yasuhiko 267, 299
Sato, Haruo 241
Sato, Isao 267, 317
Sato, Jyo 333
Sato, Mitsuo 203
Sato, Takashi 101
Sato, Tetsuo 183
Sato, Toshio 1, 161, 233, 259
Sato, Toshio 241
Sato, Yasushi 101
Sawai, Yoshikazu 191
Seiji, Kunio 333
Seino, Masahide 149, 351, 359
Seki, Akira 219
Shimizu, Kazuyuki 111
Shioji, Ryuji 267, 299
Shirai, Masafumi 9, 201, 327
Shiraishi, Hiroyuki 179
Sobajima, Yukio 373
Sugawara, Takehisa 25, 127
Sukeno, Noriyoshi 179
Suzuki, Hiroshi 25, 127
Suzuki, Masakuni 81
Suzuki, Masashige 203
Suzuki, Noriyoshi 1, 233, 259
Suzuki, Takashiro 317
Suzuki, Tsuguyoshi 379
Suzuki, Yasuyuki 183

Tadokoro, Masamichi 183
Takada, Michiya 77
Takagi, Yasushi 161
Takahara, Shigeo 39
Takahashi, Wataru 1
Takatori, Takehiko 133
Tanabu, Muneyuki 53
Tanaka, Toshiyuki 219
Tezuka, Tadashi 45
Tokawa, Yasuyuki 25
Tsuchida, Seigi 369
Tsuda, Katsuji 173

Ueda, Hitoshi 299
Umetsu, Masao 213
Usubuchi, Isamu 373

Wada, Yoshiro 53
Wakizaka, Akira 33
Wakui, Kazuo 25, 127
Watabe, Shigeru 333
Watanabe, Kazuhiro 341

Yamagata, Shoichi 25, 87, 103, 127, 141, 173, 205, 253, 333
Yamagata, Susumu 173
Yamagiwa, Hirotsugu 87, 253
Yamauchi, Hidemi 161
Yanbe, Akira 205
Yasujima, Minoru 149, 277, 351, 359
Yokoyama, Atsushi 183
Yonezawa, Kenzo 201, 327
Yoshinaga, Kaoru 149, 203, 267, 277, 351, 359

THE TOHOKU JOURNAL OF EXPERIMENTAL MEDICINE

Volume 117

September–December, 1975

EDITORIAL BOARD

S. AKAISHI Ts. ARAKAWA T. HOSHI G. KIKUCHI
M. SEIJI N. SUWA T.Y. YAMAMOTO

IN COLLABORATION WITH

M. ENDO
S. FUJISAKU
T. FUKUOKA
F. HOSHINO
M. IKEDA
N. ISHIDA
T. ISHII
K. ITAHARA
K. IWATSUKI
M. KASAI
K. KAWAMOTO
K. MIZUNO
T. MORI
H. NAKAHAMA
T. OKUMA
M. SAKKA
N. SASANO
T. SATO
T. SUGIYAMA
J. SUZUKI
M. SUZUKI
T. SUZUKI
T. SUZUKI
N. TAIRA
T. TAKISHIMA
K. TASAKI
E. WAKAMATSU
S. YAMAGATA
K. YOSHINAGA
Z. YOSIZAWA

PUBLISHED BY

THE TOHOKU UNIVERSITY

SENDAI, JAPAN

CONTENTS

Vol. 117, No. 1, September, 1975

Defective DNA repair replication in xeroderma pigmentosum firboblasts and DNA repair of somatic cell hybrids after UV irradiation. *H. Akiba, T. Kato, H. Nakano and M. Seiji* 1

Significance of gastric analysis with particular reference to the diagnosis of Zollinger-Ellison syndrome. *A. Ishimori, Y. Miura, H. Sakurada, Su. Yamagata, K. Tsuda, T. Kawamura, H. Arakawa and S. Yamagata* 15

Effects of eye movements upon excitability of the superior colliculus in cats. *Y. Hayashi and T. Nagata* 23

Different organization of cat lateral geniculate neurons in binocular inhibitory interaction. *M. Takahashi* 39

A new electrode for electromyographic study of bronchial smooth muscle. *K. Akasaka, K. Konno, Y. Ono, S. Mue, C. Abe, M. Kumagai and T. Ise* 49

Electromyographic study of bronchial smooth muscle in bronchial asthma. *K. Akasaka, K. Konno, Y. Ono, S. Mue, C. Abe, M. Kumagai and T. Ise* 55

Low serum alpha-1-antitrypsin level as a contributory factor of combined emphysema in silicosis. *K. Tokita, K. Ikeda, K. Kanno, K. Saito, K. Chiyotani and T. Nakamura* 61

The depressor effect of dopamine on the electrical and mechanical activities of cat small intestine. *H. Ohkawa and M. Watanabe* 69

Inhibitory effects of synthetic rat C-peptide 1 on insulin secretion in the isolated perfused rat pancreas. *T. Toyota, K. Abe, M. Kudo, K. Kimura and Y. Goto* 79

Inhibitor of PHA-induced lymphocyte blastformation generated from maternal lymphocytes during early pregnancy. *T. Saito, M. Takada, K. Okamura and N. Ishida* 85

Micro-determination of bromine in biological samples using proton-induced X-ray emission spectroscopy. *K. Honda, S. Shishido, T. Suzuki, H. Kubo and R. Chiba* 89

Direct effects of acryl bone cement monomer on isolated heart muscle. *I. Yasuda and K. Iwatsuki* 93

Short Reports

A variant of G_{M1}-gangliosidosis type 2 and enzymic differences between G_{M1}-gangliosidosis types 1 and 2. *T. Orii, K. Sukegawa and T. Nakao* 99

Inhibition of dopamine-β-hydroxylase by carnosine. *H. Izumi, M. Hayakari, Y. Kondo and T. Takemoto* 101

Vol. 117, No. 2, October, 1975

Response of serum LH, FSH and prolactin to injection of synthetic LH-RH into rat anterior pituitary. *M. Suzuki, M. Hirano and M. Sasamori* 103

Experimental study of dibutyryl cyclic AMP; its metabolic effects observed in anesthetized human subjects. *I. Suemori* 111

Effects of change in frequency of stimulation on myocardial depression produced by thiamylal and halothane. *N. Iwatsuki and K. Iwatsuki* 119

Effects of beta-adrenergic stimulating and blocking agents on the adrenaline response and adenyl cyclase activity of leukocyte in monkey and human being. *S. Mue, T. Ise, K. Akasaka and T. Takishima* 125

Leukocyte adenyl cyclase activity in human bronchial asthma. *S. Mue, T. Ise, Y. Ono and K. Akasaka* 135

Primary cytomegalovirus infection and liver involvement in early infancy. *S. Chiba, S. Hori, N. Kawamura and T. Nakao* 143

Effects of isolation on mice in relation to age and sex. *T. Takemoto, T. Suzuki and T. Miyama* 153

Studies on the experimental phenylketonuria in rats. *S. Iijima, A. Ishii, T. Miyakoshi, T. Ōdaira and M. Musha* 167

Electrophoretic, immunologic and kinetic characterization of erythrocyte pyruvate kinase in the Basenji dog with pyruvate kinase deficiency. *K. Nakashima, S. Miwa, K. Shinohara, E. Oda, M. Tajiri, S. Abe, J. Ono and J. A. Black* 179

Exertional hemoglobinuria. *Y. Ohno, M. Sato, I. Kurokawa, Y. Moriyama, O. Kobayashi, H. Saito and Y. Kinoshita* 187

Short Reports

A profound deficiency of [CH_3-^{14}C]choline sphingomyelin-cleaving enzyme in Niemann-Pick disease type B. *T. Orii, F. Nakamura, T. Kudoh, K. Tsuchihashi and T. Nakao* 193

Three G_{M1}-gangliosidoses and a variant of β-galactosidase deficiency. *T. Orii, K. Sukegawa, T. Kudoh, K. Horino and T. Nakao* 197

Effect of morphine on PHA-stimulated human lymphocyte transformation. *K. Saito, K. Nishioka, K. Iwatsuki, K. Kumagai and M. Sasaki* 199

Inhibitory substance (substance I) in rat liver of dopamine-β-hydroxylase and its effect on the rat blood pressure. *H. Izumi, M. Hayakari, Y. Kondo and T. Takemoto* 201

Vol. 117, No. 3, November, 1975

Morphometric estimation of brain swelling and atrophy. *H. Fukasawa* 203

Consecutive radiography of breast slices for estimation of glandular volume and detection of small subclinical lesions. A comparison between Japan and Hawaii Japanese. *N. Sasano, N. Tamahashi, T. Namiki and G.N. Stemmermann* 217

Effects of diagnostic ultrasound irradiated during foetal stage on emotional and cognitive behaviour in rats. *N. Murai, K. Hoshi, C-H. Kang and M. Suzuki* 225
Pyelonephritis and hypertension. *S. Tsuchida, K. Miura, O. Yamaguchi and S. Arai* 237
An immunofluorescent and electron microscopic study of measles skin eruption. *A. Kimura, K. Tosaka and T. Nakao* 245
Electron microscopic observation of inclusion bodies in plasma cells of multiple myeloma and Waldenström's macroglobulinemia. *K. Oikawa* 257
Histologic host response to primary methylcholanthrene-induced sarcomas in rats immunized with allogeneic tumors. *H. Kudo, T. Sato, Y. Kakisaka S. Nishimura, M. Kano and I. Usubuchi* 283
Muscle fiber orientation in normal and hypertrophied hearts. *F. Tezuka* 289

Vol. 117, No. 4, December, 1975

Kinetics of microcolonies of cultured mammalian cells after gamma irradiation. *M. Sakka, H. Katsuta and T. Takaoka* 299
Analysis of diastolic pressure-volume relation of the canine left ventricle: half-inflation pressure as an index of left ventricular compliance. *T. Nakamura, T. Nakajima, T. Takishima, N. Suzuki, S. Arai and N. Suwa* 311
Acoustical studies on respiratory sounds in asthmatic patients. *K. Akasaka, K. Konno, Y. Ono, S. Mue, C. Abe, M. Kumagai and T. Ise* 323
Metabolism of short chain fatty acid in rat liver in biliary obstruction. *K. Koyama, S. Kashimura, H. Yamauchi, Y. Takagi, Y. Owada and T. Sato* 335
Measurement of fibrinogen degradation products (FDP) in serum of normal and tumor-bearing rats. *K. Abe, H. Fujimoto, E. Endo, Y. Fukuoka, J. Khato and H. Sato* 343
Human erythrocyte carbonic anhydrase B and C in chronic obstructive lung disease. *T. Kondo, N. Taniguchi, Y. Kawakami, H. Ide, K. Saito and M. Murao* 351
Analysis of 140 consecutive autopsy cases of cerebrovascular strokes in Northern Japan. *H. Fukasawa* 357
Cat scratch disease. *T. Miura, W. Torinuki and Y. Tanahashi* 373
Enhancement of gustatory neural response to salts following adaptation of frog tongue to quinine-HCl. *T. Sato* 381
Studies on the fibercolonoscopy: with special reference to the latest procedures. *H. Watanabe, T. Narasaka and S. Yamagata* 385

Short Reports

Desquamation of renal epithelial cells as a route of mercury excretion in man: a preliminary study. *T. Suzuki and S. Shishido* 397
Neuromuscular blocking properties of some antibiotics in man. *Y. Hashimoto, T. Shima, S. Matsukawa and K. Iwatsuki* 399

AUTHOR INDEX

ABE, Chozo 49, 55, 323
ABE, Kanji 79
ABE, Kazuo 343
ABE, Shigenobu 179
AKASAKA, Kisaburo 49, 55, 125, 135, 323
AKIBA, Hiroshi 1
ARAI, Shigeru 237, 311
ARAKAWA, Hiromichi 15

BLACK, John A. 179

CHIBA, Ren 89
CHIBA, Shunzo 143
CHIYOTANI, Keizo 61

ENDO, Eiko 343

FUJIMOTO, Hidee 343
FUKASAWA, Hitoshi 203, 357
FUKUOKA, Yoshio 343

GOTO, Yoshio 79

HASHIMOTO, Yasuhiko 399
HAYAKARI, Makoto 101, 201
HAYASHI, Yasumasa 23
HIRANO, Mutsuo 103
HONDA, Kazuyo 89
HORI, Shoko 143
HORINO, Kiyotaka 197
HOSHI, Kazuhiko 225

IDE, Hajime 351
IIJIMA, Shoji 167
IKEDA, Kyuhei 61
ISE, Tadao 49, 55, 125, 135, 323
ISHIDA, Nakao 85
ISHII, Atsushi 167
ISHIMORI, Akira 15
IWATSUKI, Kenichi 93, 119, 199, 399
IWATSUKI, Naofumi 119
IZUMI, Hiroshi 101, 201

KAKISAKA, Yoshihiko 283
KANG, Chun-Hua 225
KANNO, Kuniaki 61
KANO, Masafumi 283
KASHIMURA, Seiichi 335
KATO, Taizo 1
KATSUTA, Hajim 299
KAWAKAMI, Yoshikazu 351
KAWAMURA, Nagako 143
KAWAMURA, Takeshi 15
KHATO, Juneji 343
KIMURA, Atsushi 245
KIMURA, Kenichi 79
KINOSHITA, Yasutami 187
KOBAYASHI, Osamu 187
KONDO, Takahito 351
KONDO, Yoshikazu 101, 201
KONNO, Kimio 49, 55, 323
KOYAMA, Kenji 335
KUBO, Hideo 89
KUDO, Hajime 283
KUDO, Mikihiko 79
KUDOH, Tooru 193, 197
KUMAGAI, Katsuo 199
KUMAGAI, Mutsumi 49, 55, 323
KUROKAWA, Izumi 187

MATSUKAWA, Shuh 399
MIURA, Kunio 237
MIURA, Takashi 373
MIURA, Yoshikuni 15
MIWA, Shiro 179
MIYAKOSHI, Takashi 167
MIYAMA, Tomoyo 153
MORIYAMA, Yoshiaki 187
MUE, Suetsugu 49, 55, 125, 135, 323
MURAI, Norio 225
MURAO, Makoto 351
MUSHA, Morihiro 167

NAGATA, Tetsu 23
NAKAJIMA, Toshiyuki 311
NAKAMURA, Fukumi 193
NAKAMURA, Takashi 61
NAKAMURA, Toshio 311
NAKANO, Hiroyuki 1
NAKAO, Tooru 99, 143, 193, 197, 245
NAKASHIMA, Koji 179
NAMIKI, Tsuneo 217
NARASAKA, Toshiki 385
NISHIMURA, Shigeki 283
NISHIOKA, Katsuro 199

ODA, Etsuko 179
ŌDAIRA, Tsunemoto 167
OHKAWA, Hiromichi 69
OHNO, Yasuhico 187
OIKAWA, Kousuke 257
OKAMURA, Kunihiro 85
ONO, Junichiro 179
ONO, Yasuo 49, 55, 135, 323
ORII, Tadao 99, 193, 197
OWADA, Yasuo 335

SAITO, Hideaki 187
SAITO, Kazuo 351
SAITO, Kenichi 61

Saito, Kotaro 199
Saito, Takuya 85
Sakka, Masatoshi 299
Sakurada, Hiroyuki 15
Sasaki, Mutsuo 199
Sasamori, Motohiro 103
Sasano, Nobuaki 217
Sato, Haruo 343
Sato, Masatsugu 187
Sato, Tatsusuke 283
Sato, Toshihide 381
Sato, Toshio 335
Seiji, Makoto 1
Shima, Takeshi 399
Shinohara, Kenji 179
Shishido, Sachiko 89, 397
Stemmermann, Grant N. 217
Suemori, Ikuo 111
Sukegawa, Kazuko 99, 197
Suwa, Norio 311
Suzuki, Masakuni 103, 225
Suzuki, Norio 311
Suzuki, Tsuguyoshi 89, 153, 397

Tajiri, Mitsuaki 179
Takada, Michiya 85
Takagi, Yasushi 335
Takahashi, Masatugu 39
Takaoka, Toshiko 299
Takemoto, Tai-ichiro 153
Takemoto, Tsunematsu 101, 201
Takishima, Tamotsu 125, 311
Tamahashi, Nobuaki 217
Tanahashi, Yoshio 373
Taniguchi, Naoyuki 351
Tezuka, Fumiaki 289
Tokita, Katuhiko 61
Torinuki, Wakio 373
Tosaka, Ko-ichi 245
Toyota, Takayoshi 79
Tsuchida, Seigi 237
Tsuchihashi, Keiko 193
Tsuda, Katsuji 15

Usubuchi, Isamu 283

Watanabe, Hikaru 385
Watanabe, Masao 69

Yamagata, Shoichi 15, 385
Yamagata, Susumu 15
Yamaguchi, Osamu 237
Yamauchi, Hidemi 335
Yasuda, Isamu 93